

Attachment 8: Quality Assurance STPUD Well Destruction Project

Quality Assurance and Quality Control (QA/QC) measures that will be used for each task include the following:

- The Well Destruction project will be performed under the standardized methodologies as described by the Department of Water Resources Bulletins 74-81 and its supplement, 74-90 and as required by California Water Code. Additionally, incorporated into the specifications by reference, will be American Water Works Association A100-84.
- The contractor hired to perform the well destruction will be a qualified C-57 Water Well Drilling Contractor.
- STPUD staff assigned to this project includes two California Professional Engineers and a California Professional Hydrogeologist. These staff members have 20+ years working with well standards and projects, including former well destruction projects in addition to the construction of new wells.
- On-site inspections to ensure QA/QC measures will be performed by a staff inspector with 10+ years of experience overseeing both large and small scale construction projects.
- Weekly staff meetings are held to discuss any project findings, deviations, or problems in the field. At this time, the STPUD General Manager and Assistant General Manager (both professional engineers) can be enlisted to help with any issues that cannot be resolved by the project manager.
- Other standardized methodologies that will be incorporated into this project include the California Public Contract Code and California Government Code (for the bidding and construction task items); California Labor Code (construction-destruction); and the enclosed section "Quality Assurance" that is contained in the STPUD contracts for the well destruction. Attached is an example from a previous well destruction project.

SECTION 01430
QUALITY ASSURANCE

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and procedural requirements for reactive activities to evaluate completed activities and elements for conformance with the requirements.

PART 2 QUALITY CONTROL

2.01 INSPECTION OF WORK

- A. Unless otherwise provided, all equipment, materials, and work shall be subject to inspection and testing by the Engineer. The Engineer will observe the progress and quality of the work and determine, in general, if the work is proceeding in accordance with the intent of the Contract Documents. The Engineer shall not be required to make comprehensive or continuous inspections to check the quality of the work, and shall not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work. Visits and observations made by the Engineer shall not relieve the Contractor of its obligation to conduct comprehensive inspections of the work and to furnish proper materials, labor, equipment, and tools, and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.
- B. Whenever the Contractor varies the period during which work is carried on each day, prior notice shall be given to the Engineer so that proper inspection may be provided. Any work done in the absence of the Engineer shall be subject to rejection. Proper facilities for safe access for inspection to all parts of the work shall at all times be maintained for the necessary use of the Engineer and other agents of the District, and agents of the Federal, State, or local governments at all times.
- C. One or more inspectors may be assigned to observe the work and to act in matters of construction under this Contract. It is understood that inspectors shall have the power to issue instructions and make decisions within the limitations of the authority of the Engineer. Such inspection shall not relieve the Contractor of its obligation to conduct comprehensive inspections of the work, to furnish proper materials, labor, equipment, and tools, and perform acceptable work, and to provide adequate safety precautions in conformance with the intent of the Contract.
- D. The Engineer and its representatives shall at all times have access to the Work wherever it is in progress, to the shops where the Work is in preparation, and to all warehouses and storage yards where materials and equipment are stored, and the Contractor shall provide safe and convenient facilities for such access and for

inspection. If the Contract Documents, the Engineer's instructions, laws, ordinances, or any public authority require any material, equipment or work to be specifically tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection, and if the inspection is by an authority other than the District, of the time fixed for inspection. Inspections by the Engineer will be made promptly and, where practicable, at the source of supply.

- E. Work performed without inspection may be required to be removed and replaced under proper inspection and the entire cost of removal and replacing, including the cost of District furnished materials used in the work, shall be borne by the Contractor, regardless of whether or not the work exposed is found to be defective. Examination of questioned work, other than that installed without inspection, may be ordered by the Engineer and, if so ordered, the work must be uncovered by Contractor. If such work is found to be in accordance with the Contract Documents, the District will pay the cost of re-examination and replacement. If such work is found to be not in accordance with the Contract Documents, the Contractor shall pay such cost unless he can show that the defect in the work was caused by another Contractor, and in that event the District will pay such costs.
- F. The inspection of the work shall not relieve the Contractor of its obligation to fulfill the Contract as prescribed, or in any way alter the standard of performance provided by the Contractor, and defective work shall be corrected and nonconforming materials may be rejected, notwithstanding that such work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. If the work or any part shall be found defective, Contractor shall, within ten (10) calendar days, correct such defect in a manner satisfactory to the Engineer. If the Contractor shall fail or neglect to make ordered repairs of defective work or to remove the condemned materials from the work within ten (10) calendar days after direction by the Engineer in writing, the District may make the ordered repairs, or remove the nonconforming materials, and deduct the cost from any monies due the Contractor.
- G. The Contractor shall furnish promptly without additional charge all facilities, labor, and materials reasonably needed by the Engineer for performing all inspection and tests. Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.
- H. Where any part of the work is being done under an encroachment permit or building permit, or is subject to Federal, State, County or City codes, laws, ordinances, rules or regulations, representatives of the government agency shall have full access to the work and shall be allowed to make any inspection or tests in accordance with such permits, codes, laws, ordinances, rules, or regulations. If advance notice of the readiness of the work for inspection by the governing agency is required, the Contractor shall furnish such notice to the appropriate agency.
- I. The Engineer may inspect the production of the material, or the manufacture of products at the source of supply. Plant inspection, however, will not be undertaken until the Engineer is assured of the cooperation and assistance of both the Contractor and the material producer. The Engineer or its authorized representative shall have free entry at all times to such parts of the plant as concerns the

manufacture or production of the materials. Adequate facilities shall be furnished free of charge to make the necessary inspection.

- J. Materials, equipment, and workmanship shall be subject to the inspection of, and rejection by, the Engineer, if not in conformance with the Contract Documents. Defective materials, equipment, or Work shall be removed from the premises by the Contractor, whether in place or not, and shall be replaced with new and acceptable materials, equipment, or work. Repair of defective materials, equipment, or work shall be subject to the Engineer's acceptance.
- K. The District assumes no obligation to inspect materials at the source of supply.
- L. On all questions concerning the acceptability of materials or equipment, classification of materials, or equipment, execution of the Work, and the determination of costs, the decision of the Engineer shall be final and binding upon all parties.

2.02 TESTS

- A. Unless specified otherwise, the Contractor shall perform at its expense all tests specified or required by the Technical Specifications. The Engineer will perform such tests as he deems necessary to determine the quality of work or compliance with Contract Documents. The Contractor shall furnish promptly without additional charge all facilities, labor, and material reasonably required for performing safe and convenient tests as may be required by the Engineer. All tests by the Engineer will be performed in such a manner as will not unnecessarily delay the work. If samples of materials are submitted which fail to pass the specified tests, the Contractor shall pay for all subsequent tests.

2.03 REMOVAL OF REJECTED AND UNAUTHORIZED WORK AND MATERIALS

- A. All work or materials which have been rejected shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no additional compensation will be allowed for such removal, replacement, or remedial work.
- B. Any work done beyond the lines and grades shown on the Plans or established by the Engineer or any extra work done without written authority will be considered as unauthorized work and will not be paid. Upon order of the Engineer, unauthorized work shall be remedied, removed, or replaced at the Contractor's expense.
- C. Upon failure of the Contractor to comply with any order of the Engineer, the District may cause rejected or unauthorized work to be remedied, removed or replaced, and may deduct the costs from any monies due or to become due the Contractor in the form of a Change Order.

2.04 DEDUCTIONS FOR UNCORRECTED WORK

- A. If the Engineer deems it inexpedient to correct work damaged or not done in accordance with the Contract, an equitable deduction from the Contract price shall be made therefore, and such sum may be withheld by District from Contractor's payment.

2.05 EQUIPMENT AND PLANTS

- A. Only equipment and plants suitable to produce the quality of work and materials required will be permitted to operate on the Project.
- B. Plants will be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity to insure the production of sufficient material to carry the work to completion within the time limit and met all Federal, State, County, & Local requirements.
- C. The Contractor shall provide adequate and suitable equipment and plants to meet the above requirements, and when ordered by the Engineer, shall remove unsuitable equipment from the work and discontinue the operation of unsatisfactory plants.
- D. The Contractor shall identify each piece of its equipment, other than hand tools, by means of an identifying number plainly stenciled or stamped on the equipment at a conspicuous location, and shall furnish to the Engineer a list giving the description of each piece of equipment and its identifying number. In addition, the make, model number and empty gross weight of each unit of compacting equipment shall be plainly stamped or stenciled in a conspicuous place on the unit. The gross weight shall be either the manufacturer's rated weight or the scale weight.
- E. In the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the District, shall promptly remove any part or all of his equipment and supplies from the property of the District. If the Contractor fails to do so, the District shall have the right to remove such equipment and supplies at the expense of the Contractor.

2.06 CHARACTER OF WORKERS

- A. If any Subcontractor, or person employed by the Contractor or any Subcontractor shall fail or refuse to carry out the directions of the District or its agents or shall appear to the District or its agents to be incompetent or to act in a disorderly, unsafe, or improper manner, that person shall be removed from the project work immediately on the request of the District or its agents, and such person shall not again be employed on the work. Such discharge shall not be the basis for any claim for compensation or damages against the District, or any of its officers or agents.

2.07 CONFORMITY WITH CONTRACT DOCUMENTS AND ALLOWABLE DEVIATIONS

- A. Work and materials shall conform to the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on Contract Documents. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Engineer shall be the sole judge as to whether the work or materials deviate from the Contract Documents, and the Engineer's decision as to any allowable deviations shall be final and conclusive.